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MAMMAL RECORDS FROM BRISCOE, DICKENS, HALL, AND MOTLEY COUNTIES, TEXAS

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ABSTRACT

In 2008, fieldwork was conducted that resulted in the identification of 18 new mammal records from three counties (Dickens, Hall, and Motley) in northwest Texas. An additional 13 county records collected from 1956-2005 (including from Briscoe County) were identified after an examination of specimens housed in the Natural Science Research Laboratory of the Museum of Texas Tech University. Collecting efforts such as these provide important natural history data that can be used in future assessments of the mammalian diversity within Texas.

Key words: Briscoe County, Dickens County, Hall County, mammals, Motley County, Texas Panhandle

INTRODUCTION

In the spring, summer, and fall of 2008, 18 species of mammals, all representing new county records, were collected from three counties in western Texas: Dickens (1), Hall (6), and Motley (11). Our sampling sites included 26 localities (see Fig 1). The following are the trapping localities in which records were collected in 2008:

Afton. A private ranch, about 1.2 km north and 0.6 km east of Afton, in Dickens County. The locality included the edge of a small lake (UTM 14N: 332182E, 3738136N) surrounded by dense stands of cattail (*Typha sp.*).

Flomot North. A topographically level CRP (Conservation Reserve Program) grassland, about 1.6

km south of Flomot (UTM 14N: 316559E, 3786887N), in Motley County.

Flomot South. A private ranch, about 2.4 km south of Flomot (UTM 14N: 316863E, 3786602N), in Motley County. This locality was primarily comprised of a series of shallow and medium-sized canyons dominated by juniper (*Juniperus sp.*) and mesquite (*Prosopis sp.*).

Turkey North. A large private ranch, located approximately 10 km east of Turkey (UTM 14N: 335684E, 3809850N), in Hall County. This locality was comprised of both dense grassland and a juniper grassland drainage area with interspersed plum thickets surrounded by high bluffs.

Turkey South. Three ecological associations along country roadsides, about 7.5 km south and 6.0 km east of Turkey (UTM14N: 333040E, 3799903N), in Hall County. The first locality consisted of sandy soil with interspersed low-lying brush, another was a dry woodland riparian zone with large cottonwood trees (*Populus wislizeni*), and the third was a riparian zone along a brushy fencerow.

Additional specimens in both Hall and Motley counties were collected as road-kills along major roads (three sites). Finally, three bat specimens were collected from a roosting site in Hall County.

The following collections fill a comparative void in mammal distribution and representation along the northeastern edges of the Llano Estacado and associated Caprock habitats. After Bailey's statewide survey in 1905, little was added to the existing knowledge

of Texas' mammals in this region. Systematic mammal collections in this region were not in place until Blair's (1954) efforts. The number of county records included herein is a reflection of the historical neglect of the region. Other researchers such as Dalquest and Horner (1984), Stangl and Jones (1987), Choate (1997), and Roberts (1998) provided some details concerning distribution, seasonal occurrences, and geographic preferences of mammals in this area. The current study reflects recent collecting efforts and the inclusion of older and unreported collections from four counties along the margins of the Caprock that historically have been neglected since Blair's studies. The inattention to this specific region is in sharp contrast to adjoining areas within Texas to the west (Pesaturo et al. 1990; Choate 1997), to the north (Dalquest et al. 1990; J. K. Jones et al. 1988), and to the east (C. Jones et al. 1987; Dalquest and Horner 1984).

MATERIALS AND METHODS

Mammals were collected using a variety of methods including: collection of road kills, shooting, excavating burrow systems, trapping using Sherman, Tomahawk, and Macabee traps, as well as mist-nets. Voucher specimens were prepared either as skin and skulls or alcohol preserved specimens. All voucher materials (skin and skulls; TTU numbers), frozen tissues, and blood samples were deposited in the Collection of Recent Mammals in the Natural Science Research Laboratory (NSRL), Museum of Texas Tech University. Standard field measurements were taken for each specimen. Specimens were collected following the guidelines of the American Society of Mammalogists (Gannon et al. 2007) and the Texas Tech ACUC

(Animal Care and Use Committee). Species accounts follow the taxonomic arrangement in Wilson and Reeder (2005) and habitat and distribution descriptions contained in Schmidly (2004). Species identifications were based on morphological examinations of voucher specimens. When available, reproductive conditions of specimens were reported. Tissue voucher numbers for all specimens collected in 2008 (TTU 109034-109155) are accessible online at <http://www.nsrll.ttu.edu/search/index.htm>. Specific localities (Fig. 1) for each county record are provided in the UTM 14N geographic coordinate or, when unavailable, as noted on museum skin tags.

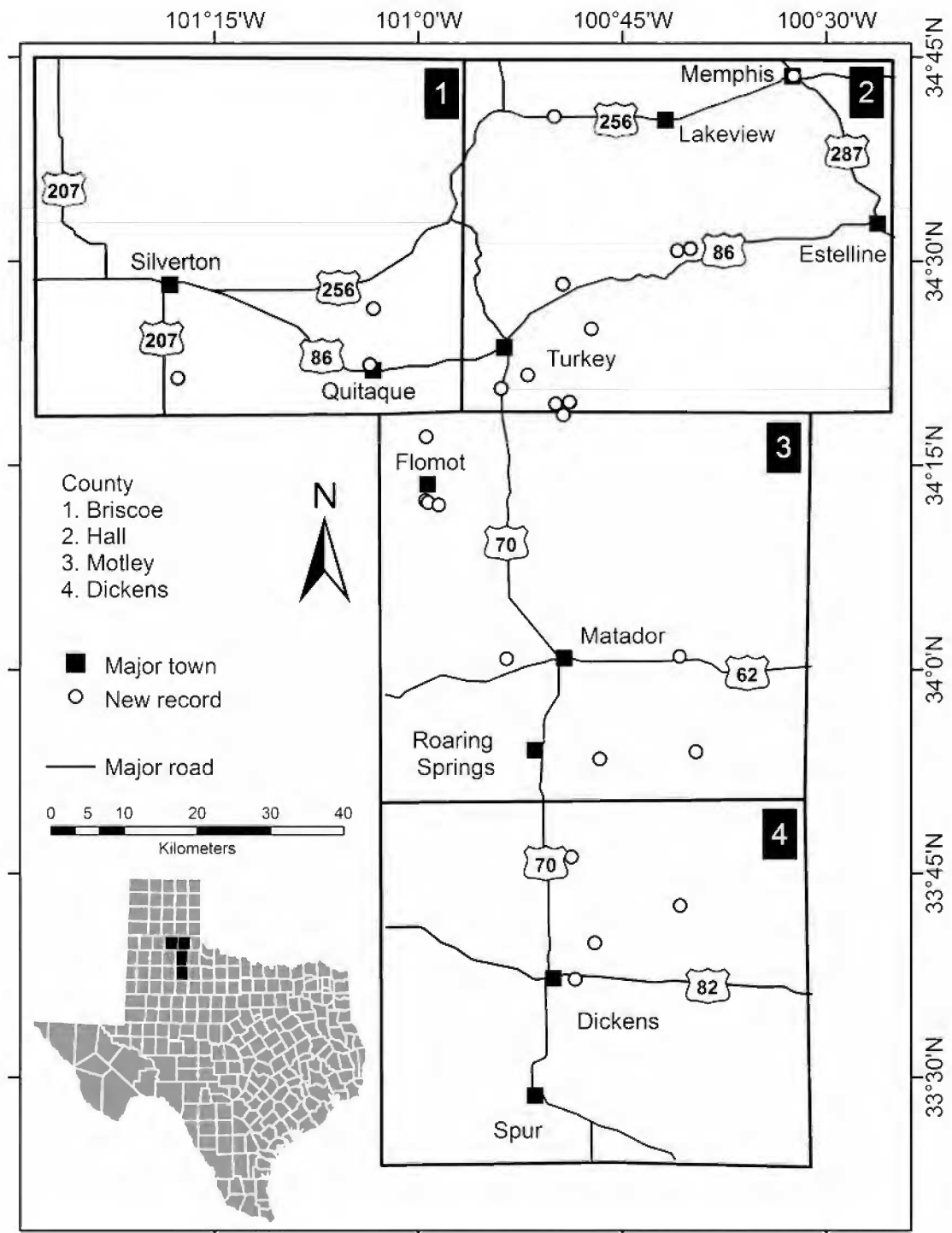


Figure 1. Geographic localities of mammal records identified herein from Briscoe, Dickens, Hall, and Motley counties.

SPECIES ACCOUNTS

ORDER DIDELPHIMORPHIA
 Family Didelphidae
Didelphis virginiana Kerr 1792
 Virginia Opossum

The Virginia Opossum commonly is found in deciduous woodlands near streams and rivers and is distributed throughout Texas, excluding the dry regions of the Trans-Pecos. In Motley County, on 25 May 2008, one male and one female (TTU 109052 and TTU 109053) were collected in Havahart live-traps near a small pond on a private ranch (316863E, 3786602N) surrounded by large hackberry (*Celtis laevigata*), juniper, and willow (*Salix nigra*) trees. In Hall County, on 27 September 2008, one male (TTU 109051) was collected 7.2 km south and 6.5 km east of Turkey in a Havahart live-trap near a small stream (333040E, 3799903N) under a brush pile. In Briscoe County, on 14 May 1997, one scrotal male (TTU 76988) was collected in the Texas Caprock Canyons State Park (310669E, 3805456N).

ORDER CINGULATA
 Family Dasypodidae
Dasypus novemcinctus Linnaeus 1758
 Nine-banded Armadillo

The Nine-banded Armadillo has expanded its North American distribution significantly over the last 150 years (Freeman and Genoways 1998). In Texas, it is distributed throughout the state including portions of the Davis Mountains (Kennedy and Jones 2006). This species tends to be found in greater abundance near water sources and in areas where the soil has a sand-clay mix. Our Motley County record of *D. novemcinctus* consists of a dermal shell (TTU 109147) that was collected in mesquite-juniper grassland 2.4 km south of Flomot (316863E, 3786602N) on 24 August 2008.

ORDER LAGOMORPHA
 Family Leporidae
Lepus californicus Gray 1837
 Black-tailed Jackrabbit

The Black-tailed Jackrabbit is found throughout Texas excluding a small region in east Texas. *Lepus*

californicus commonly is found in habitats consisting of dry, desert mesquite with interspersed shrubs. In Motley County, on 24 May 2008, one female (TTU 109054) was collected on a private ranch 2.4 km south of Flomot (316863E, 3786602N) in an area of dry, mesquite brush. In Motley County, on 19 August 1984, one female (TTU 41017) was collected 12.9 km south and 14.5 km east of Matador (346544E, 3752142N). In Dickens County, on 24 June 2005, one individual (TTU 107499) was collected 1.6 km south and 4.8 km east of Patton Springs School.

Sylvilagus floridanus (J. A. Allen 1890)
 Eastern Cottontail

Sylvilagus floridanus is distributed widely in Texas, usually in areas of brushy cover along pastures or cultivated fields. In Motley County, on 24 May 2008, two males (TTU 109137 and TTU 109138) were collected on a private ranch 2.4 km south of Flomot (316863E, 3786602N) in an area of thick mesquite brush.

ORDER SORICOMORPHA
 Family Soricidae
Cryptotis parva (Say 1823)
 Least Shrew

The Least Shrew is distributed in eastern, southern, and northwestern Texas. *Cryptotis parva* occurs mostly in grasslands, but is occasionally found in moist forested areas. In Hall County, on 14 August 1997, one female (TTU 77035) was caught in Caprock Canyons State Park (332582E, 3815970N). In Dickens County, on 5 October 2008, one female (TTU 109050) was found 1.2 km north and 0.6 km east of Afton near a private ranch house (332182E, 3738136N) north of Dickens. This specimen was found under a beached boat surrounded by dense stands of cattail near a small lake.

ORDER CHIROPTERA

Family Molossidae

Tadarida brasiliensis (I. Geoffroy 1824)

Brazilian Free-tailed Bat

Tadarida brasiliensis is found throughout Texas in dark, dry retreats such as caves, tunnels, wells, hollow trees, human habitations, and bridges. In Motley County, on 24 May 2008 and 25 May 2008, one male and seven females (four pregnant) (TTU 109139-109146) were collected on a private ranch (316863E, 3786602N) in mist-nets and with a firearm over a pond surrounded by large hackberry, juniper, and willow trees. In Motley County, on 19 August 1984 and 31 May 1985, two males (one scrotal) and one female (TTU 41016, TTU 48199, TTU 49310) were collected 12.9 km south and 14.5 km east of Matador (346544E, 3752142N).

Family Vespertilionidae

Eptesicus fuscus (Beauvois 1796)

Big Brown Bat

Two subspecies of *Eptesicus fuscus* occur within Texas, *E. f. pallidus* in the west and *E. f. fuscus* in the east. In addition to geographic separation, these subspecies are also defined in part by single (*E. f. pallidus*) versus twin (*E. f. fuscus*) births (Manning et al. 1989). Our specimens from Hall County, corresponding to *E. f. pallidus*, were collected at the First Presbyterian Church (359015E, 3843861N) in Memphis on 2 July 1980. Of the 44 specimens collected, 11 were males (five scrotal) and 33 were females (TTU 35133-35147, TTU 35746-35768, TTU 37206-37207, TTU 48858-48861).

Myotis velifer (J. A. Allen 1890)

Cave Myotis

The Cave Myotis commonly occurs in rock crevices, caves, and in man-made structures and is distributed throughout north- and south-central Texas extending into the western panhandle. In Hall County, on 27 September 2008, one male (TTU 109057) was collected in an abandoned house 5.9 km east of the junction between Texas Highway 70 and Farm Road 256 (332048E, 3838793N). This appeared to be a roosting site for several hundred individuals as evidenced

by the abundance of guano. In the same house, one male (TTU 109055) and one female (TTU 109056) were collected together from a single barn swallow (*Hirundo rustica*) nest. In Motley County, on 25 May 2008, one male (TTU 109058) was collected in a mist-net over a pond (316863E, 3786602N) surrounded by large hackberry, juniper, and willow trees. On 12 April 2008, one male (TTU 109148) was collected at the same locality with a firearm. On 26 September 2008, six females (TTU 109149-109154) were collected from a roost of approximately 600 individuals in the basement of the Roaring Springs school house. In Dickens County, on 20 May 1985 and 31 July 1985, one male and six females (two pregnant) (TTU 48192-48198) were collected 9.7 km north and 14.5 km east of Dickens (344400E, 3731287N). In Motley County, on 9, 19, and 21 August 1984, seven females (TTU 41014, TTU 41015, TTU 48944, TTU 48945, TTU 48946, TTU 48947, TTU 54626) were collected 12.9 km south and 14.5 km east of Matador (346544E, 3752142N). In Briscoe County, on 15 April 1967, one male (TTU 3952) was collected 14.5 km north of South Plains on Highway 207 (288947E, 3804087N). In Briscoe County, on 2 October 1956, 15 April 1967, and 21 September 1968, two males and two females (TTU 101, TTU 102, TTU 3951, TTU 7774) were collected in the Los Lingos Canyon, approximately 16.1 km west-southwest of Quitaque.

ORDER CARNIVORA

Family Mustelidae

Taxidea taxus (Schreber 1777)

American Badger

The American Badger is distributed widely in Texas and remains to be documented from the extreme eastern portions of the state (Long 1973; Schmidly 2004). Given its expansive distribution throughout North America, *T. taxus* clearly tolerates a variety of habitats. On 27 July 1968, one male (TTU 12059) was collected from Motley County, 6.4 km west of Matador (325315E, 3765206N). On 16 July 1982, one female (TTU 38495) was collected from Dickens County, 30.6 km west of Dickens. On 7 October 2000, one male (TTU 83633) was collected from Dickens County, 2.1 km east of Patton Springs School.

Family Mephitidae

Mephitis mephitis (Schreber 1776)

Striped Skunk

The Striped Skunk is found throughout Texas, dwelling in rocky crevices and outcrops usually near water and foraging in open grasslands. In Hall County, on 26 September 2008, one female (TTU 109155) was collected near a cotton field along Highway 70, 1.0 km north of the Motley-Hall County border (325368E, 3801940N).

Family Procyonidae

Procyon lotor (Linnaeus 1758)

Raccoon

Procyon lotor is found throughout Texas and occurs within or near hardwood-timbered habitats, bottomland swamps, lakes, ponds, and farmlands. In Motley County, on 28 September 2008, one female (TTU 109123) was collected as a road-kill specimen on Texas Highway 599, 6.4 km north of Flomot (316800E, 3795526N). In Motley County, on 27 July 1968, one male (TTU 12060) was collected 12.9 km east of Matador (344911E, 3765206N).

ORDER RODENTIA

Family Sciuridae

Cynomys ludovicianus (Ord 1815)

Black-tailed Prairie Dog

Although extirpated over much of its former range, *C. ludovicianus* continues to thrive in the western portion of Texas north of the Rio Grande Plains and has a larger distribution than any other species of prairie dog (Hoogland 1996). This species can be found in short grass prairies, in overgrazed pastures, and where vegetation is sparse. In Dickens County, on 11 July 1982, 11 males and 21 females (TTU 36864-36895) were collected 24.1 km north of Guthrie.

Spermophilus spilosoma Bennett 1833

Spotted Ground Squirrel

The Spotted Ground Squirrel typically inhabits dry areas with sandy soils and scattered brush. The distribution of this species includes the western portion of Texas and continues southward toward the Rio Grande

Plains (Streubel and Fitzgerald 1978; Schmidly 2004). In Briscoe County, on 20 May 1997, two pregnant females (TTU 77144 and TTU 77145) were collected in the Texas Caprock Canyons State Park (311205E, 3813045N). Helgen et al. (2009) recognized eight genera formerly included within *Spermophilus* and formally transferred *spilosoma* to the genus *Xerospermophilus*. We refrain from classifying *Spermophilus spilosoma* as *Xerospermophilus spilosoma* until the taxonomic hypotheses of Helgen et al. (2009) are accepted by the scientific community.

Family Heteromyidae

Perognathus flavescens Merriam 1889

Plains Pocket Mouse

The Plains Pocket Mouse is found in the Great Plains region. In Texas, it is recorded in the Panhandle and adjacent High Plains areas in the northwestern part of the state. This mouse prefers sandy soils with sparse vegetation. Its burrows are often found underneath clumps of Spanish bayonet (*Yucca sp.*) or prickly pear (*Opuntia sp.*). In Dickens County, on 21 July 1996, one male and one female (TTU 71454-71455) were collected 4.8 km north and 4.8 km east of Dickens (334602E, 3726388N).

Perognathus merriami J. A. Allen 1892

Merriam's Pocket Mouse

Merriam's Pocket Mouse is distributed in south-central and west Texas, excluding the extreme eastern, northern, and western regions of the state. This species commonly is found in sand-clay mixed soils where there are sparse, low-growing grasses. In Hall County, on 20 September 2008, one female (TTU 109060) was collected in a Sherman trap on a large private ranch east of Turkey (335684E, 3809850N) in a habitat of blue stems (*Schizachyrium sp.*) and low-lying grama grasses (*Bouteloua sp.*) along with *Peromyscus leucopus*, *Peromyscus maniculatus*, *Baiomys taylori*, *Chaetodipus hispidus*, and *Sigmodon hispidus*. In Motley County, on 24 May 2008, one pregnant female (TTU 109065) was collected in a densely covered CRP field approximately 1.6 km south of Flomot (316559E, 3786887N) using a Sherman trap on the same trap line as *Peromyscus leucopus*, *Peromyscus maniculatus*, *Baiomys taylori*, and *Sigmodon hispidus*.

Family Cricetidae
Baiomys taylori (Thomas 1887)
 Northern Pygmy Mouse

Baiomys taylori is distributed throughout Texas, and remains to be documented from a small region in the northeastern part of the state. They are found in dense grassy and weedy habitats along fencerows, highway rights-of-way, and pastures. In Motley County, on 13 April 2008, 24 May 2008, 25 May 2008, and 28 September 2008, eight males (TTU 109042-109049) were collected in Sherman traps in three different habitats. Six individuals were collected in a region with dense, weedy juniper and mesquite brush (318039E, 3786261N) along with *Sigmodon hispidus*, *Reithrodontomys montanus*, *Reithrodontomys megalotis*, and *Peromyscus leucopus*. Another individual was collected in a dense, grassland pasture (316559E, 3786887N) along with *Sigmodon hispidus*, *Peromyscus leucopus*, and *Chaetodipus hispidus*. An additional specimen of *Baiomys taylori* was collected in sloping, dense juniper mesquite grassland (316863E, 3786602N) along with *Reithrodontomys montanus*, *Reithrodontomys megalotis*, and *Peromyscus leucopus*. In Motley County, on 11 October 1975, one female (TTU 25864) was collected 4.8 km east of Roaring Springs (335622E, 3751374N).

Neotoma leucodon Merriam 1894
 White-toothed Woodrat

Neotoma leucodon occurs across southwestern Texas into central Texas and northward throughout the panhandle. This species is found mostly in arid and rocky areas that commonly consist of prickly pear, cholla cactus (*Opuntia sp.*), mesquite, and other desert scrub. In Dickens County, on 25 October 1981, one scrotal male (TTU 37110) was caught 2.6 km east of Dickens (332316E, 3721489N).

Peromyscus maniculatus (Wagner 1845)
 North American Deer Mouse

The North American Deer Mouse is distributed widely throughout Texas, occurring in a variety of habitats including sparsely vegetated deserts, mixed forests, riparian zones, weedy fencerows, and washouts. In Hall County, on 20 September 2008 and 27 September

2008, three males and two females (TTU 109072, TTU 109073, TTU 109080, TTU 109085, TTU 109091) were collected in Sherman traps in three different localities. Two individuals were collected in an area dominated by patches of mesquite brush (332321E, 3798179N) along with *Peromyscus leucopus*, *Baiomys taylori*, and *Perognathus merriami*. *Peromyscus maniculatus* was also collected along a weedy fencerow (331494E, 3799734N) in a washout area within a woody riparian zone along with *Peromyscus leucopus*. A single specimen was collected along a fencerow (333040E, 3799903N) within a dense hedge of lotebush (*Ziziphus sp.*) along with *Peromyscus leucopus*, *Perognathus merriami*, *Chaetodipus hispidus*, and *Baiomys taylori*. In Hall County, on 27 June 1994, one scrotal male (TTU 76909) was collected in the Texas Caprock Canyons State Park (347057E, 3820539). On 31 May 1985, one female (TTU 76911) was collected at another location in the Texas Caprock Canyons State Park (345566E, 3820296N).

Reithrodontomys fulvescens J. A. Allen 1894
 Fulvous Harvest Mouse

Reithrodontomys fulvescens primarily occurs in the eastern two-thirds of Texas and extends to the southwest to portions of Big Bend Ranch State Park (Yancey 1997), but remains to be documented in the Edwards plateau. This species is usually found in grassy or weedy areas and occasionally in desert mesquite brush. In Hall County, on 27 September 2008, one female (TTU 109124) was collected in a Sherman trap along a county road next to a large field of native grasses (332321E, 3798179N) along with *Chaetodipus hispidus*, *Baiomys taylori*, *Peromyscus leucopus*, and *Dipodomys ordii*. In Motley County, on 13 April 2008 and 25 May 2008, one male and one female (TTU 109126 and TTU 109125) were collected in Sherman traps at two different localities. The first was collected near a dry creek bed in a juniper mesquite assemblage (316863E, 3786602N) along with *Peromyscus atwateri*, *Reithrodontomys megalotis*, *Reithrodontomys montanus*, and *Perognathus merriami*. The second was collected along a fencerow bordering a CRP field (316559E, 3786887N) containing native grasses along with *Sigmodon hispidus*, *Baiomys taylori*, *Reithrodontomys megalotis*, and *Peromyscus leucopus*.

Reithrodontomys montanus (Baird 1855)
Plains Harvest Mouse

The Plains Harvest Mouse is found throughout the western two-thirds of Texas, excluding the Big Bend area. *Reithrodontomys montanus* commonly occurs in climax grasslands as well as in overgrown highway rights-of-way, hayfields, pastures, and riparian zones. In Motley County, on 13 April 2008, 24 May 2008, and 25 May 2008, six males (TTU 109131-109136) were collected in Sherman traps in three different habitats. Two individuals were collected in dense juniper mesquite grassland along a bluff (318039E, 3786261N) along with *Reithrodontomys fulvescens*, *Perognathus merriami*, and *Peromyscus attwateri*. Another individual was collected in sloping, dense juniper mesquite grassland (316863E, 3786602N) along with *Baiomys taylori*, *Reithrodontomys megalotis*, and *Peromyscus leucopus*. An additional three specimens were collected along a fencerow bordering a CRP field (316559E, 3786887N) containing native grasses along

with *Sigmodon hispidus*, *Baiomys taylori*, *Reithrodontomys megalotis*, and *Peromyscus leucopus*.

Family Erethizontidae
Erethizon dorsatum (Linnaeus 1758)
North American Porcupine

The North American Porcupine is the only member of the family Erethizontidae distributed in the United States and Canada, ranging from Alaska and Labrador south to northern Mexico (Woods and Kilpatrick 2005). *Erethizon dorsatum* inhabits a variety of habitats, from coniferous forests to scrub brushlands and deserts. Porcupines inhabiting the northern Panhandle of Texas are associated with rocky escarpments or sand sage (*Oligosporus filifolius*) and shin oak (*Quercus sinuate*) assemblages. In Motley County, on 27 November 1988, a female *Erethizon dorsatum* (TTU 53561) was collected 18 km E of Matador.

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